

ABSTRACT

A method, apparatus, and computer readable medium containing programming instructions for reducing lock contention of concurrent transactions is disclosed. According to the method, apparatus, and computer readable medium of the present invention, a scan is performed by accessing all rows of a table in a relational database, evaluating each row to determine whether the row satisfies a set of predicates of a database query, and returning the row if it satisfies the set of predicates. According to a preferred embodiment of the present invention, all rows are evaluated regardless of current locks. The scan is continued if the row does not satisfy the set of predicates. A lock is requested if the row satisfies the set of predicates, and the scan is suspended, if the requested lock is refused. The request is repeated and the row is re-evaluated when the lock is permitted. If thereafter the row still satisfies the set of predicates, the row is returned. If the row no longer satisfies the set of predicates, the lock is released, the row is skipped, and the scan is continued.

The locking semantics according to the invention has the advantage that it completely removes the problem of lock contention on the rows that do not satisfy statement predicates.